2

Treatment Manual

Chemical Treatments

Aerosols and Micronized Dusts

Contents

Introduction **page-2-11-1**
Aerosols **page-2-11-1**
Micronized Dusts **page-2-11-2**
- Cartridges **page-2-11-2**
- Equipment **page-2-11-2**

Methods and Procedures for Application **page-2-11-2**
- Treatment of Passenger Compartments and Cargo Aircraft **page-2-11-2**
- Treatment of Separate Cargo Compartments and Containerized or Palletized Cargo **page-2-11-3**

Precautions for Both Aerosols and Micronized Dusts **page-2-11-4**
Precautions in Use of CO_2 Fire Extinguishers **page-2-11-4**

Introduction

This section includes information about aerosols and micronized dusts. Use this information with the T409 series of treatments, and with Table 5-5-1: Determine the Amount of Aerosol, to conduct a safe and effective aerosol disinfestation.

Aerosols

When applying an aerosol, the dispenser nozzle(s) should be directed upward at an angle of 45 ° and moved from side to side in order to get uniform distribution of the material. During discharge, the dispensing valve should be depressed fully, and the nozzle held 45 cm (18 inches) or more from all surfaces. Devices are available for depressing the valve and expending all the aerosol in the can or a trigger mechanism for ease in dispensing the material. Aerosol dosages are based on a dispensing rate of 1 g per second, unless otherwise noted. The applicator should use a dust mask, or face mask (with filter) for personal protection. The PPQ quarantine dosage shall not be applied in the presence of passengers, crew, or animals, except as noted in the schedules.

Micronized Dusts

Both domestic and foreign quarantine programs use dust to kill pests such as the Japanese beetle and pests of foreign origin. This method may be used in treating aircraft, railroad cars, trucks, and palletized or containerized cargo. Specific instructions for domestic quarantine use are included in Program Manuals.

Cartridges

Prefilled cartridges are used (available as follows: green–1 g; yellow–3 g; red–5 g; and blue–13 g). Combinations of these sizes will give the correct amount and the dust may be combined into a single cartridge to reduce the number of individual "shots" required. Care must be taken in combining the material to insure no exposure to the dust occurs through dermal contact or inhalation.

Store filled pesticide cartridges in a cool, dry, protected location. Damaged cartridges and empty cartridges should be disposed of by placing them in refuse containers in accordance with recommendations for the safe disposal of pesticide containers. When treating aircraft, refer to T409 of this manual which lists the cubic capacity and application schedules for most commercial and military aircraft. Do not deduct the space occupied by cargo in computing the required treatment rate.

Equipment

Compressed CO_2 or compressed air is used to expel the dust. A modified CO_2 fire extinguisher with a standard release valve may be used. The 10-pound CO_2 capacity extinguisher, which weighs 35 to 40 pounds when full, is convenient and safe for use. Sufficient gas for 25 to 30 releases is contained in this size. Smaller modified extinguishers are also satisfactory. Compressed air units must be specifically designed for expelling dust and are not readily available.

Specifically developed micronized dust guns with proper connections may be available through the Program Support Staff in Riverdale, MD.

Methods and Procedures for Application

Treatment of Passenger Compartments and Cargo Aircraft

All entry doors and other openings should be closed and all ventilation systems stopped before discharge of dust. The door to the pilot's compartment must be closed. On aircraft with a baggage compartment immediately behind the pilot's and no door to separate these compartments, place a screen of plastic or other suitable material

between the baggage compartment and the pilot's compartment. Galleys shall be closed off by means of doors or a screen of plastic, etc., which will prevent the entry of the pesticide.

The single nozzle gun recoils or kicks back when discharged. Therefore, it must be held firmly with one hand while the other hand is used to trigger the release of the CO_2. Keep the host between the extinguisher and the gun as straight as possible to reduce kickback. A position should be taken much like that used when firing a large caliber pistol. Rest the bottom of the gun on a solid object if possible. Kneeling on one knee may be necessary if the host to gun is short. A 1-second blast is sufficient. The discharge nozzle should be directed above the top of the seats or cargo to assure unimpeded flow of the dust cloud from the release point.

On smaller types of aircraft, stand behind the first seat to discharge the dust. Leave the aircraft immediately after release; close the door quickly to avoid disturbing proper dust distribution.

In larger aircraft, discharge the dust from the front behind the pilot's compartment or from the rear depending on location of exit doors. Remain in the craft only long enough for the dust cloud to appear to have reached the other end of the craft—about 1 minute. The dust cloud may not return from the opposite end of the large aircraft. Judgment should be used by the inspector as to the best location for firing if partitions are present.

A recently designed gun has two nozzles facing in opposite directions. Since the gas and dust are expelled from both nozzles, no "kick" results. The operator should stand in the middle of the large compartment when firing the charge.

After dust has been discharged, the officer will leave the aircraft, close the door, and hold the aircraft closed for 10 minutes.

Unless responsible personnel remain near the craft to prevent inadvertent entry by others, place a treatment notice, PPQ Form 468, on the entry door. Cargo or passenger area ventilation systems shall not be in operation during the application and settling periods. After a 15-minute aeration period, the aircraft may be reentered.

Treatment of Separate Cargo Compartments and Containerized or Palletized Cargo

Cargo compartments in bellies of aircraft will be treated by opening the doors sufficiently to insert the applicator nozzle. After firing, close the door quickly and do not open for at least 10 minutes. Treatment of such compartments may require two people, one to operate the doors

and the other to operate the gun. Containerized cargo is treated by lifting the cover or otherwise inserting the nozzle in the container. After discharge, the cover should be quickly closed.

Precautions for Both Aerosols and Micronized Dusts

1. Treatment shall not be applied when animals or people are present.
2. Food should be removed or covered prior to treatment.
3. Food preparation surfaces and equipment shall be covered to prevent contamination.
4. A suitable respirator, approved by the National Institute of Safety and Health shall be worn by the person applying the pesticide. **EXCEPTION:** A respirator is not required when the pesticide label or this manual specifies that use in the presence of people is acceptable.
5. Goggles are optional equipment and should be worn if the person applying the pesticide experiences any eye irritation.
6. Do not smoke or eat during application and not until after washing. Wash as soon as possible after application of pesticides.
7. Any pesticide residue noted on smooth surfaces after treatment should be wiped away using a clean damp cloth. (If a deposit of dust is noted on the floor immediately after discharge, a blast of compressed air or CO_2 will usually clear the area.)

Precautions in Use of CO_2 Fire Extinguishers

1. Discharging CO_2 chills metal and can cause freezing injury to bare hands. Do not touch the nozzle immediately after discharge. It may be advantageous to wear a glove on the gun hand if several discharges are to be made in close succession. Do not hold the release valve open longer than necessary to expel the dust (about a second).
2. Replace the safety pin in the CO_2 tank valve after each use and secure with wire or tape. Accidental release could result in severe injury.
3. Keep the face away from openings when applying material in a luggage compartment or to containerized cargo to avoid dust backlash.

4. Check the flexible hose between the CO_2 tank and dust gun. Pay particular attention to the areas near the connections. Replace the host when it shows wear.